



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,664	02/05/2001	Paul Kevin Shufflebotham	015290-508	9320

7590 07/31/2002
Peter K. Skiff
BURNS, DOANE, SWECKER & MATHIS, L. L. P.
P. O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

ZERVIGON, RUDY

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 07/31/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/775,664

Applicant(s)

SHUFFLEBOTHAM ET AL.

Examiner

Rudy Zervigon

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 50-53 and 55-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50-53 and 55-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7. 6) ☐ Other: _____

Art Unit: 1763

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 23, 2002 ("Request for reconsideration") has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 50-53, 55-70 are rejected under 35 U.S.C. 102(a) as being anticipated by Suzuki et al (U.S.Pat. 5,522,934). Suzuki et al teaches an PECVD (column 4, lines 5-18) ICP reactor (Fig.2) with a plasma processing chamber (4, Fig.3; column 3, lines 55-57). A ceramic (“anodized aluminum”; column 4, lines 19-25) substrate holder (6, Fig. 2) is shown (column 4, lines 19-36) supporting a substrate (“W”) within the processing chamber. An electrically-conductive planar coil (22, Figure 2) disposed outside the process chamber (column 12, lines 23-27) and connected to an RF energy source (32, Fig.2) for energizing the process gas into a plasma state. Means for gas introduction into the process chamber (34, Figure 2). Suzuki further teaches wafer temperature control means (column 4, lines 45-55; column 13, line 62 – column 14, line 4).

51-53 - In advance, it is well established that apparatus claims must be structurally distinguished from the prior art. Further, the manner in which an apparatus is operated does not differentiate apparatus claims from the prior art. See MPEP 2114.

55 – Suzuki further teaches operating pressures in the 1mTorr to 30mTorr range (column 8, lines 4-8), however, the manner in which an apparatus is operated does not differentiate apparatus claims from the prior art. See MPEP 2114.

Art Unit: 1763

56 - Suzuki further teaches an electrode (18, Figure 2) within the substrate holder and an RF generator connected to the electrode (column 4, lines 47-51 – compare “RF power supply 32” and “power supply (not shown)”)

57 - Suzuki further teaches means for introducing the process gas wherein the gas supply includes orifices (36a-c, 44; Figure 2), and at least some of the orifices orientating the process gas along an axis of injection which intersects an exposed surface of the substrate at an acute angle – column 10, lines 28-33

59 – Suzuki further teaches an RF bias power source (16, Figure 2) connected to the substrate holder (6, Figure 2)

60-63, – Suzuki further teaches means for introducing the process gas comprising a primary (56a, Figure 10) and secondary gas rings (60, Figure 10; column 10, lines 33-57) that directs the process gas toward the substrate (column 10, lines 28-33) along injectors (42, 34a-c; Figure 2). The direction of process gas injection is supported by Suzuki et al to be “horizontally formed” (column 10, lines 28-33) and thus directed “away from the substrate”.

64 - Suzuki further teaches peripheral injection means peripheral to the substrate – Figure 4

Art Unit: 1763

Response to Request for reconsideration


4. Applicant has provided evidence in this file showing that the invention was owned by, or subject to an obligation of assignment to, the same entity as Lam Research Corporation at the time this invention was made. Accordingly, Shufflebotham (USPat. 6,106,678) is disqualified as prior art through 35 U.S.C. 102(e), (f) or (g) in any rejection under 35 U.S.C. 103(a) in this application. However, new art is presently applied against Applicant's claims as provided above.

Art Unit: 1763

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPat. 5,078,851; 5,874,012; 5,783,492; 5,651,827.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (703) 305-1351. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official after final fax phone number for the 1763 art unit is (703) 872-9311. The official before final fax phone number for the 1763 art unit is (703) 872-9310. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (703) 308-0661. If the examiner can not be reached please contact the examiner's supervisor, Gregory L. Mills, at (703) 308-1633.


GREGORY MILLS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700